Fig 1: Routing Switcher with variable input/output architecture

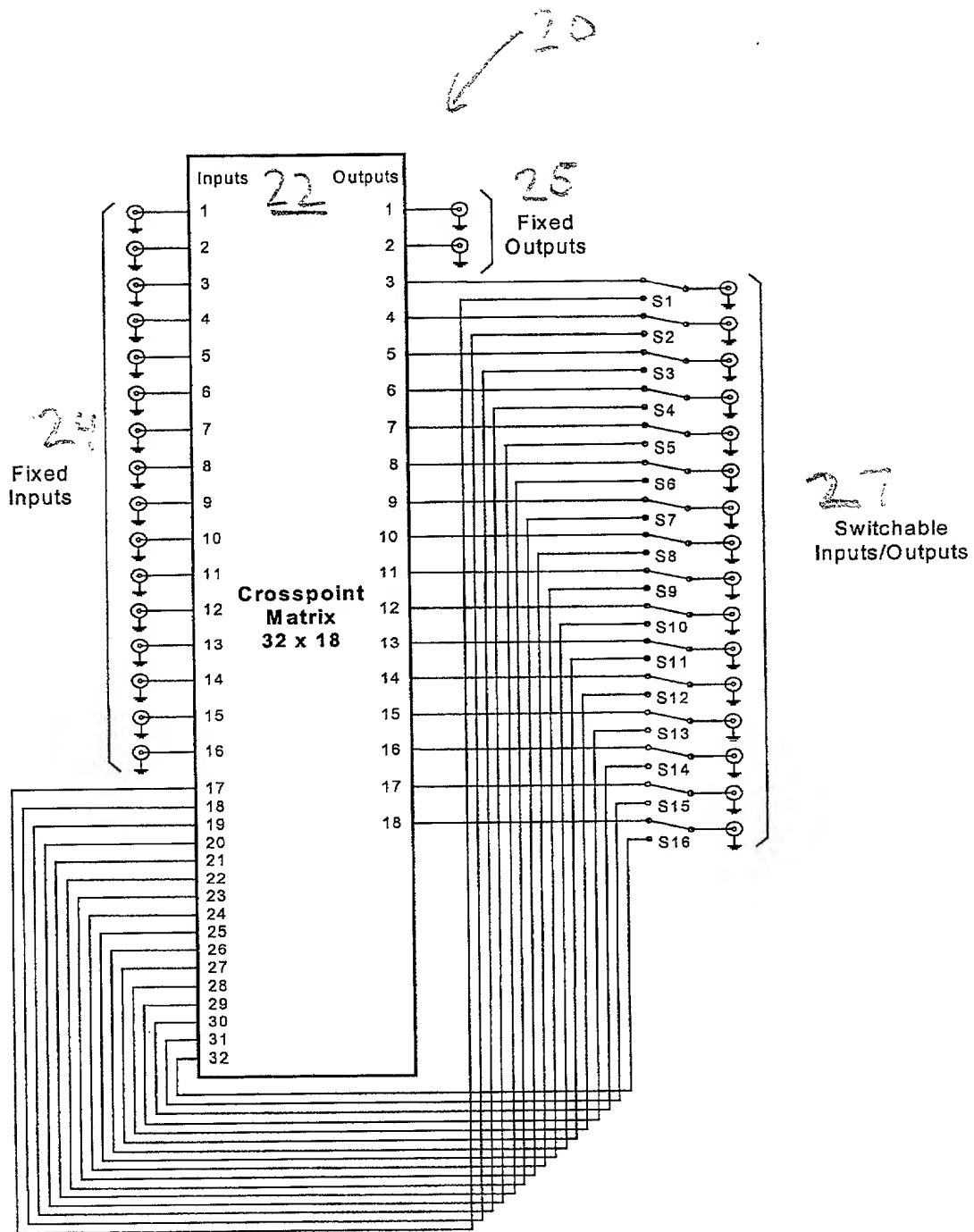FIGURE 1

Fig 2: Larger Routing Switcher with variable input/output architecture
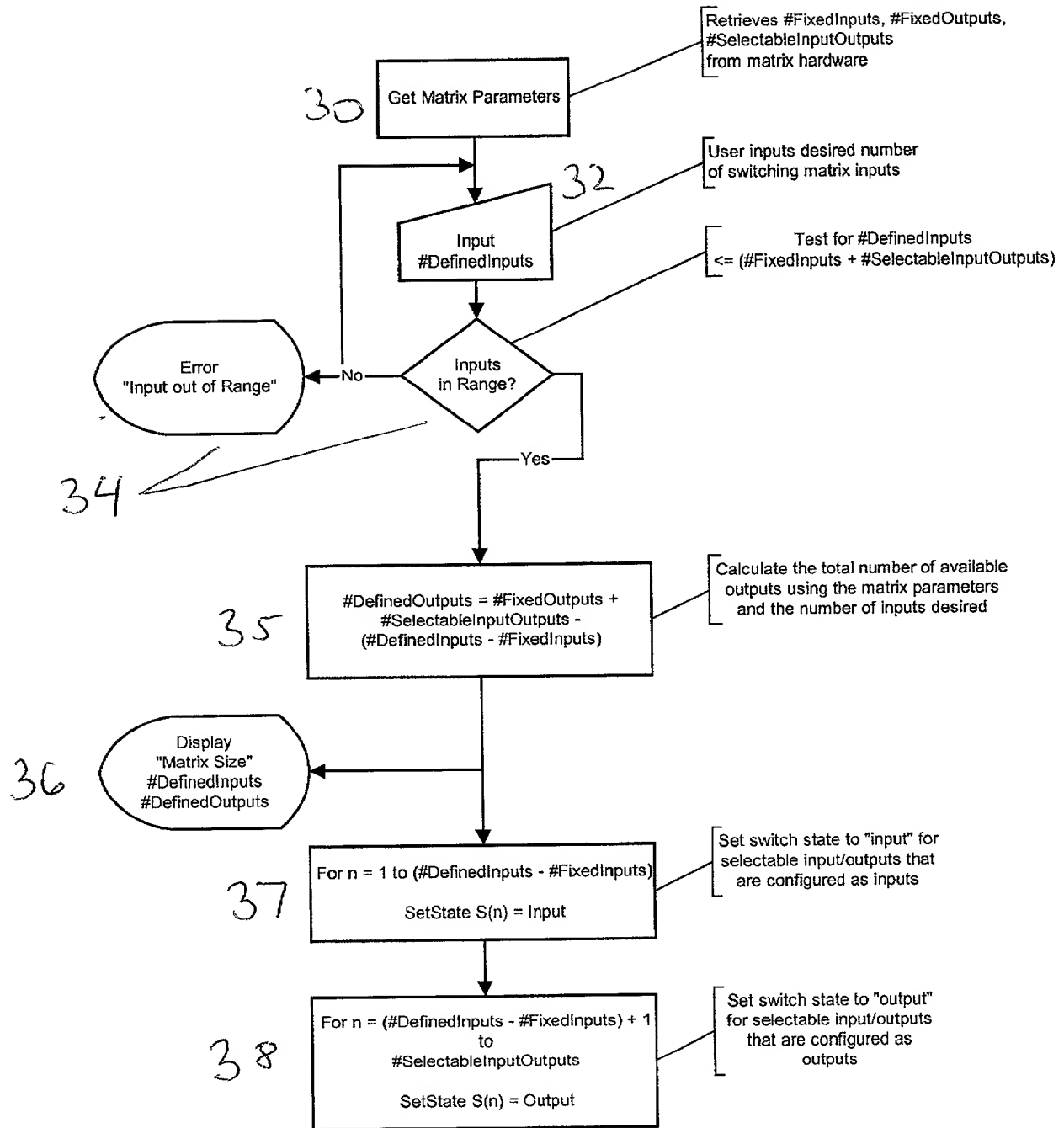
FIGURE 2

Flowchart:

Get Matrix Parameters

30

Retrieves #FixedInputs, #FixedOutputs, #SelectableInputOutputs from matrix hardware

Input #DefinedInputs

32

User inputs desired number of switching matrix inputs

Test for #DefinedInputs <= (#FixedInputs + #SelectableInputOutputs)

Inputs in Range?

Error "Input out of Range"

No

34

Yes

$\text{\#DefinedOutputs} = \text{\#FixedOutputs} + \text{\#SelectableInputOutputs} - (\text{\#DefinedInputs} - \text{\#FixedInputs})$

35

Calculate the total number of available outputs using the matrix parameters and the number of inputs desired

Display "Matrix Size" #DefinedInputs #DefinedOutputs

36

For n = 1 to (#DefinedInputs - #FixedInputs)

SetState S(n) = Input

37

Set switch state to "input" for selectable input/outputs that are configured as inputs

For n = (#DefinedInputs - #FixedInputs) + 1 to #SelectableInputOutputs

SetState S(n) = Output

38

Set switch state to "output" for selectable input/outputs that are configured as outputs

FIGURE 3